Vignette 3

Pillars of Tibetan Medicine: The Chagpori and the Mentsikhang Institutes in Lhasa

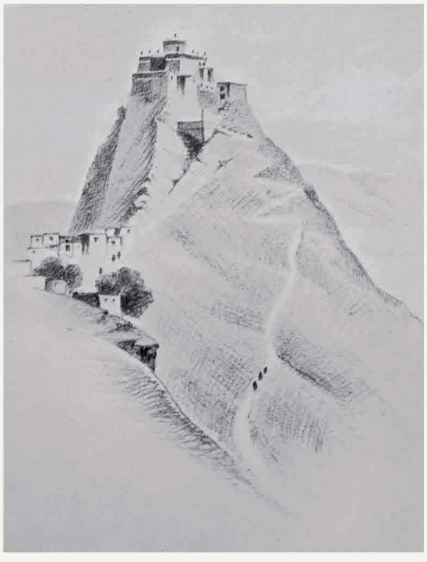
Theresia Hofer and Knud Larsen

This essay discusses two of Lhasa's most important historic Tibetan medical institutions. One is the Chagpori Medical College, which stood atop the "Iron Hill" opposite Potala Palace from the late seventeenth century until its destruction by the People's Liberation Army in March 1959 (FIG. V3.1). The other is the Mentsikhang (literally, Institute for Medicine and Astrology), which was established in the early twentieth century and is still active and expanding to this day. The Mentsikhang's original Tibetan-style building is preserved very near Lhasa's central Jhokhang Temple and the surrounding Bharkhor area, although the four major institutions that have evolved from it since the 1980s and that carry out most Tibetan medical teaching and practice and production of medicine in Lhasa are housed in large modern buildings scattered across the city.

After a brief summary of the historical origins and the political, medical, and artistic contexts of the establishment of the two original Lhasa institutions, we will describe and reconstruct their architectural layout and design in order to fill an important gap in existing works on secular and Buddhist Tibetan architecture in Lhasa.[1] Throughout we reflect how architecture and the visual art, such as that expressed in medical paintings, murals, and statues and a part of the Tibetan "arts and crafts," interacted and intersected with medical practice and teaching, and with Buddhism. The actual medical and to some extent Buddhist activities of the two Lhasa facilities are touched upon here only briefly, as several accounts on the historical and contemporary context have been provided elsewhere.[2]

Since there are many Tibetan medical facilities throughout the Tibetan Plateau, in Mongolia, and in Indian exile — both monastic and secular — readers might ask why we have chosen to focus on these two Lhasa-based institutions and their medical, artistic, and architectural legacy? Lhasa in the late seventeenth and early twentieth century was not only the political and, to some extent, religious capital of Tibet; it was also a major center for medical learning. The two institutions we will discuss were central to innovations and new developments and artistic engagement with medicine, activities that were all supported and overseen by the most powerful leaders of their time, namely the Dalai Lamas and their regents (see also chapter 10). Physicians and students working there were intimately linked to and ultimately served the political and Buddhist elites of the time who had come to power with support of the Mongols in the mid-seventeenth century. Boasting both growing medical expertise and support from the Tibetan government, these institutions were in demand as medical schools. With the growing expansion of Tibetan Buddhism and Sowa Rigpa, especially into Mongolia, the Lhasa institutions became templates for the medical facilities that were subsequently established elsewhere. Throughout the region, Gelugpa monasteries began to serve more formally as important medical centers. They complemented, and at times intersected with, the transmission and practice of Tibetan medicine in family and other medical lineages, as well as in training institutions of other Buddhist orders.

Many of the medical colleges known as Menpa Drazangs in Mongolia were part of the Gelugpa monasteries and were founded beginning in the early eighteenth century after the establishment of Chagpori Medical College. Some even taught according to the Chagpori curriculum. Chagpori-trained physicians were often sent to Mongolia to help with the establishment of medical colleges and to teach. The same was true for the Kumbum and Labrang monasteries in northeastern Tibet; the latter is discussed in vignette 2 in the context of its medical murals. In short, the model of the monastic medical college at Chagpori left a legacy that reached far beyond Lhasa.



V3.1 Chagpori Medical College in Lhasa in 1904. Drawing by L. Austine Waddell

A later example of an attempt to mirror one of the Lhasa institutes is the Men-Tsee-Khang,[3] which was established in 1961 in Dharamsala in northern India. Following the flight of the Dalai Lama in 1959 and as a result of socio-political upheavals in the region, thousands of Tibetans left Tibet and crossed the border into Nepal and India. Once the seat of the exile government was established in Dharamsala, the then tiny medical institute's primary goal was to provide essential and affordable medical services for the growing exile community that had begun to settle in this town in the foothills of the Indian Himalayas. The institute soon developed from a clinic in one small building into a large facility that featured teaching, clinical and pharmaceutical departments, and it also became the node of a network of more than forty branch clinics throughout India. Today the Tibetan government in exile and many of the staff of the Men-Tsee-Khang see this institution as an important means of preserving aspects of Tibetan culture in exile.[4]

CHAGPORI MEDICAL COLLEGE: "TANADUG ISLAND OF KNOWLEDGE — BERYL BENEFIT TO SENTIENT BEINGS"

During his lifetime, the Fifth Dalai Lama, Ngawang Lobzang Gyatso (see FIGS. 10.2 and 10.3), was known to have made donations to several small medical training facilities outside Lhasa and in central Tibet, as well as for having invited many medical scholars to teach and work at his court in Lhasa.[5] It was not until the period after his death and the rule of his brilliant regent, Sangye Gyatso (FIG. 10.1), that a dedicated medical college was established in Lhasa.

The story goes that Sangye Gyatso, in the third month of the fire-monkey year of the twelfth Tibetan calendar cycle (i.e. 1696), went on a pilgrimage to Lhasa's "Iron Hill" (Chagpori), which already featured several important Buddhist caves and shrines. One of the structures located at the top was the Drubthog Lhakhang temple (Grub thob Lha khang), built in 1430 by Tibet's prolific master engineer and yogi Thangton Gyalpo. During this pilgrimage, Sangye Gyatso had a vision that this site resembled the mythical city of Tanadug, whose center features the palace where the Medicine Buddha resided while teaching the *Gyushi*, or *Four Tantras* (see FIG. 1.1). Sangye Gyatso sought confirmation from one of his court physicians, an expert in pharmacology, that the site also featured rare medicinal materials that had cooling and warming properties.[6]

Sangye Gyatso decided to integrate the structure and contents of the existing Drubthog Lhakhang into a new building dedicated to medicine and to medical-spiritual practice. The previous history of the site lent great religious authority to the new institution, which continued to function as a temple while medicine was being taught and practiced there. It is likely that the design of the college building itself retained some characteristics of this earlier temple, especially its predominant external feature, a cylindrical tower that protruded high over the flat roofs of surrounding structures. It is this central tower, or at least its lower part, that is likely to have been at least a part of the original structure of Thangtong Gyalpo's temple.[7]

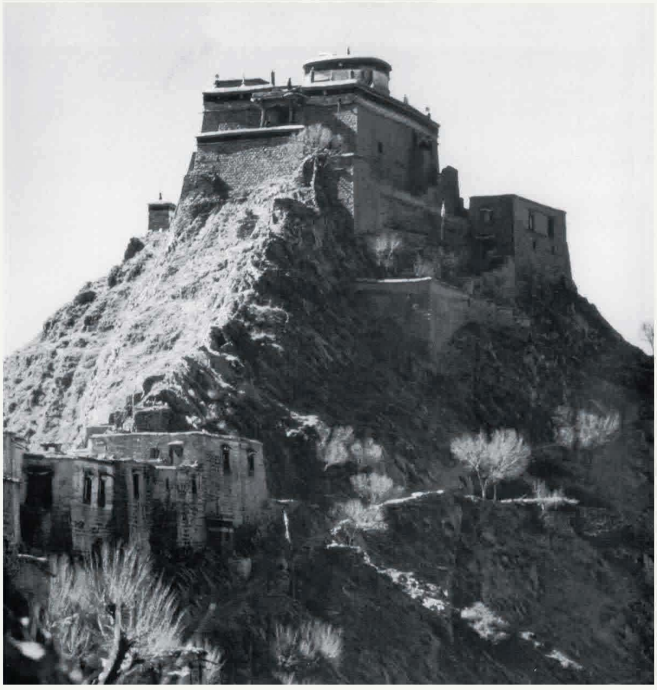
The full name of the college, Tanadug Island of Knowledge — Beryl Benefit to Sentient Beings (Bai durya 'gro phan lta na ngo mtshar rig byed gling)[8] is an indication of Sangye Gyatso's vision of the medical city of Tanadug in this location on Chagpori Hill (see chapter 1). The name incorporates Tibetan Buddhism's wider bodhisattva aspirations to benefit all sentient beings and Sangye Gyatso's own symbolic connection with the precious beryl stone, which he had already used in titles for several of his writings. Court physicians of the Dalai Lama and Sangye Gyatso were asked to provide academic medical training to Gelugpa monks who had been invited by the government to come from monasteries throughout Tibet. The recently completed set of seventy-nine medical paintings was also preserved at the college (see chapter 10). Many life-size Buddhist statues, *thangkas*, and murals were kept in the round multistory central building and in the assembly hall at the ground-floor level. Some of them had been acquired many centuries earlier; some were added when the institution was founded; the most recent additions dated to 1954 (see FIG. V3.2).[9] Many of these objects, which are associated with ritual worship, squarely placed the medical tradition within the Buddhist realm, paying tribute to the scholars and lineage holders associated with both medicine and Buddhism.[10] The facility featured a library where Buddhist, medical, and astrological works were kept, not least those by Sangye Gyatso. There was also a printing press attached to the college, where important medical texts were produced and some of their xylographs kept.

V3.2 Buddhist Statues Inside of Chagpori. Chagpori; ca. 1950s. Courtesy of Robert Gerl

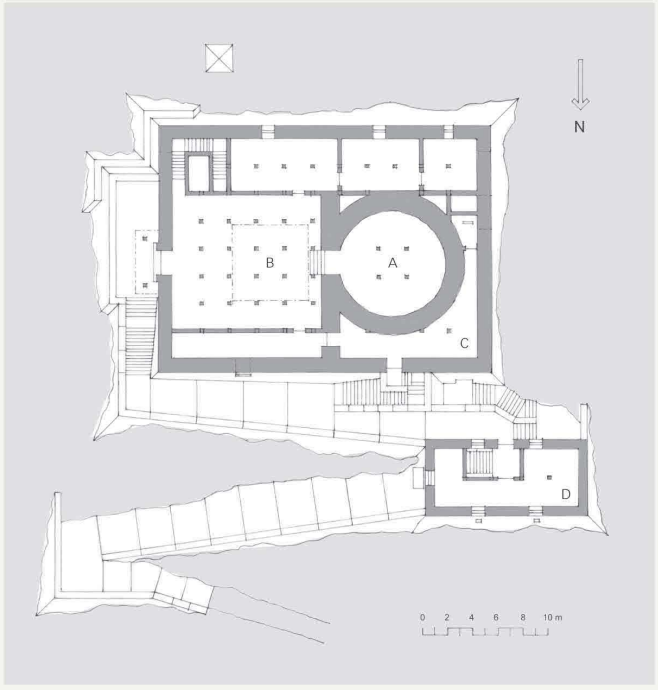
V3.3 Young Buddhist monks at Chagpori making medical pills, ca. 1938/1939. Courtesy of Bundesarchiv, Bild, Deutschland. 135-S-16–05–14

Sangye Gyatso's decision to locate the medical college at the top of Chagpori Hill, directly opposite Potala Palace, the seat of the Dalai Lamas (FIG. V3.4),[11] is clear evidence of the literal and figurative elevation that the medical sciences experienced under the rule of the recently centralized Ganden Phodrang government, shortly after it succeeded in unifying disparate Tibetan principalities. Together with Sangye Gyatso's writings and the medical paintings, which are featured throughout this volume, the establishment of Chagpori was part of a larger effort aimed at newly defining the

V3.4 Lhasa with the Potala at the Center. Chagpori College is seen opposite Potala, to the left and on top of Chagpori hill. Mongolia; 18th–19th century. Mineral pigments on cloth; 87.3 × 62.2 cm. Rubin Museum of Art. C2009.4 (HAR 65848)

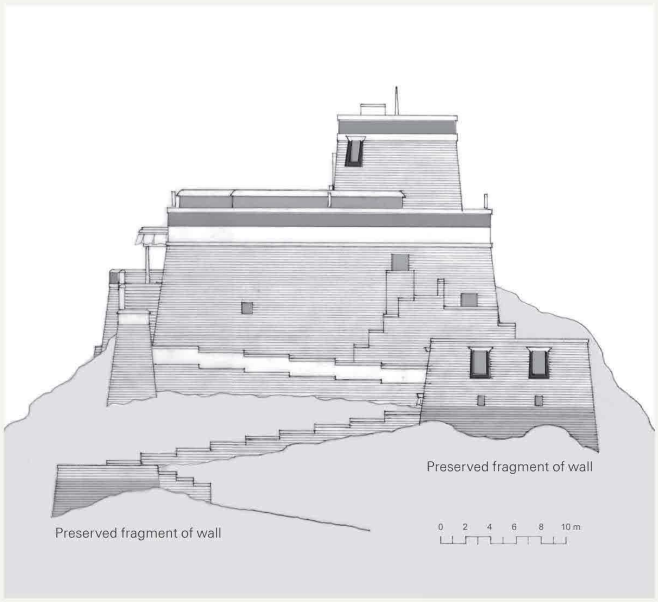


V3.5 Chagpori Medical College in 1956



V3.7 Ground plan of Chagpori, preliminary reconstruction. ©Knud Larsen, 2013. A: Original core, B: 17th-century prayer hall, C: Printing press, D: Kitchen

V3.6 The Ruins of Chagpori Medical College in 1982. Courtesy of Heinrich Harrer Museum



V3.8 North facade of Chagpori, preliminary reconstruction. ©Knud Larsen, 2013

medical sciences, with a view to establishing and maintaining the hegemony and political power of the Gelugpa order and the Ganden Phodrang government.

Architecture of the Chagpori College

In order to envision the exterior design of the Chagpori Medical College building, we must rely on photographs, drawings, and descriptions of its appearance before it was destroyed in March 1959. In the present study, we have analyzed photographs taken by a number of Europeans and Tibetans, including Charles Bell, Spencer Chapman, Heinrich Harrer, Rabden Lepcha, Evan Nepean, Hugh Richardson, Ernst Schäfer, Josef Vaniš, and Dasang Damdul Tsarong. Added to these are photographs taken by Heinrich Harrer (FIG. V3.6) in 1982, when some of the ruins of Chagpori were still at the site. At some point between 1982 and 1987, these remaining ruins were removed and replaced by a steel radio mast, which was erected on a concrete platform and remains there to this day. Only small pieces of two corners of the foundations for outlying buildings seem to have survived. As the site has been fenced off and entry to the entire hill is forbidden, it has not been possible to carry out a direct survey of the site. There are, unfortunately, only a few notes and one photographic record of the interior, but these tell us little about the architectural structure as their focus was the Buddhist statues there.[12]

As noted above, the main feature of the building was a cylindrical tower that rose over the surrounding structure, which itself was flanked by a kitchen and a gatehouse, with several smaller buildings and residences for the monks nearby. Thubten Tsering, previously a doctor at Chagpori, described the tower as "looking like a bag of tsampa,"[13] perhaps because its sloping outer wall makes the tower wider at the ground and narrower toward the top. As with all other stone walls in Tibetan buildings, the outer face slopes inward about seven degrees while the interior face is vertical as a natural result of building without mortar.

The tower itself had three interior floors: the lowest floor was a few steps up from the assembly hall; the middle floor would have been reached from the gallery in the assembly hall; and the top floor was probably accessed from the roof of the assembly hall. The asymmetrically placed window on the upper floor seems to have pointed toward Potala Palace.

Although it is fairly easy to judge the height of the tower from the number of standard floors, it is difficult to deduce the horizontal dimensions. Some photographs indicate that the main structure surrounding the lower part of the tower was square, but others make it look rectangular. A key to this question was provided by Tenzin Palchok, a doctor and teacher who worked at Chagpori before the destruction, who noted that the main assembly hall had twenty pillars.[14] This would indicate an arrangement of four by five pillars and a rectangular dimension of about 11 by 14 meters. With the hall touching the tower and with rows of smaller rooms flanking the hall as described in a sketch for which the doctor provided information,[15] we get an impression of the entire plan, which suggests that the axis through the center of the tower and the main entrance was symmetrical. However, a photograph by the cinematographer Josef Vaniš, who visited Lhasa in 1956, clearly shows that the main entrance was not situated in the center of the eastern wall but was about 1.5 meters off center toward the north (FIG. V3.5). Thus the central axis would likewise be toward the north, making the secondary row of rooms to the south wider than the row at the north. That framework suggests the size and distribution of spaces as seen in the preliminary ground plan (FIG. V3.7).

Under the main floor there would have been a basement, which was partly occupied by the top of the original rock of the hill. The basement was accessed by two doors and lighted by a small window. This area most likely provided a storage space for collected herbs and, as Thubten Tsering points out, for precious medical substances.[16] The small separate building to the north of the main building housed the kitchen and functioned as a gate to the monastery, with interior stairs that all visitors had to climb (see FIG. V3.8).

It is not entirely clear who these visitors were and their reasons for visiting, since the social history of Tibetan medicine as a field of study is still in its infancy. We should certainly not assume that Chagpori Medical College in the late nineteenth or early twentieth century, or even earlier, functioned as a modern medical clinic for treating patients. It would also be an overstatement to call the foundation of Chagpori the beginning of public health care in Tibet.[17] Chagpori seems to have been, above all, a medical training institution and a medical monastery (FIG. V3.3), for physicians and students to provide care and medications to fellow Gelugpa Buddhist monks and high government personnel, as well as visiting members of Lhasa nobility. Members of the general public probably did not even perceive Chagpori as a place to receive medical care. As a monastery however, Chagpori attracted visitors and the hill on which it was built was an important part of Lhasa's sacred geography and a prominent site for worship and pilgrimage.

THE MENTSIKHANG

The Mentsikhang was founded in 1916, only a few years after the Thirteenth Dalai Lama, Thubten Gyatso, declared Tibet an independent state in 1913 and members of his government

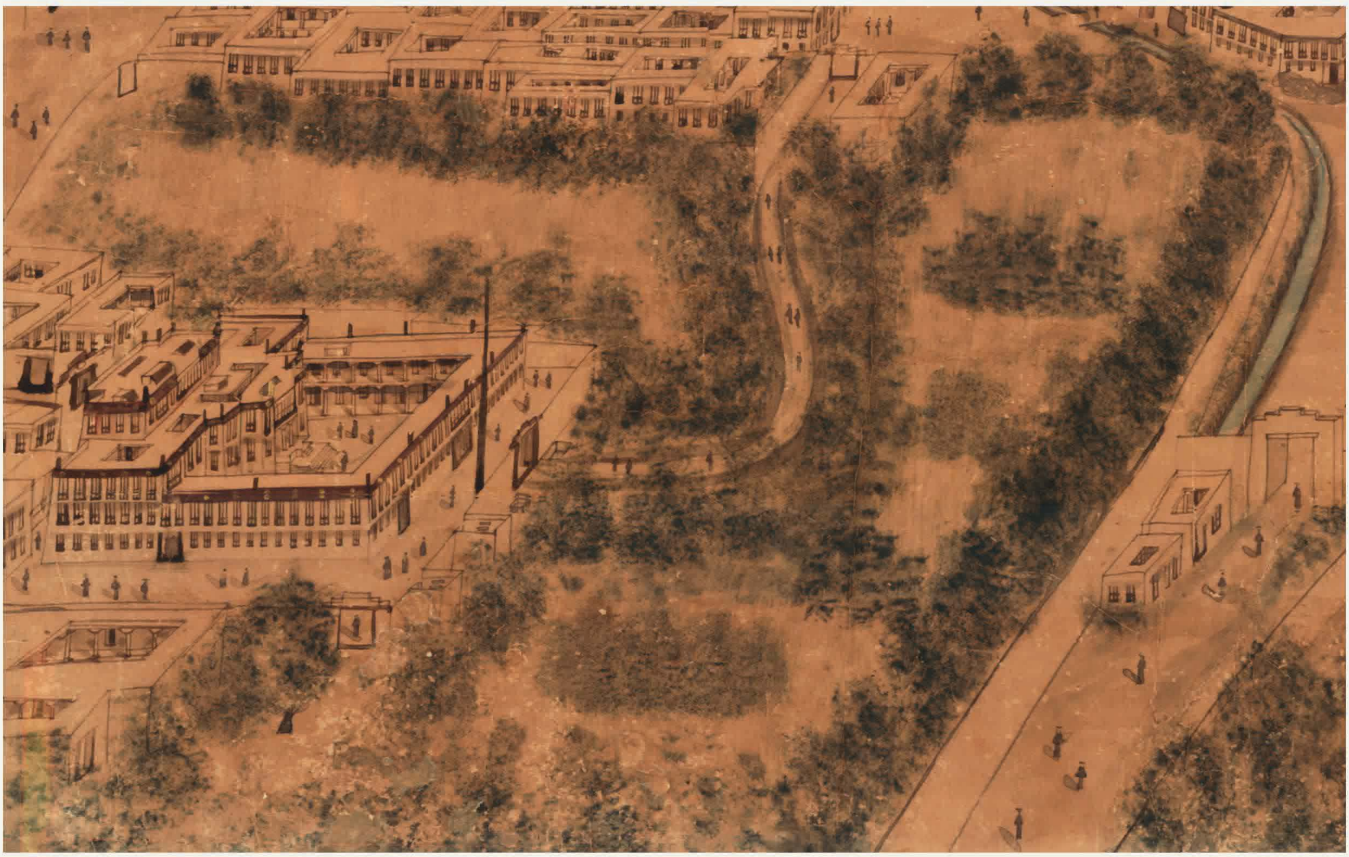
V3.9 Thirteenth Dalai Lama with medical scholars and his personal physician Jampa Thubwang (Commissioned by Khyenrab Norbu). Plate 80 of the Tibetan medical paintings (Lhasa set). Lhasa, central Tibet; early 20th century. Pigment on cloth; 86×68 cm. Mentsikhang Collection

initiated several reforms to modernize Tibet and build a modern nation state.

In line with these reforms and in contrast to the concept of Chagpori as a monastic medical college, the mission of the Mentsikhang was to teach students from diverse social groups rather than only Gelugpa monks. Apart from the ordained community, students should also come from the Tibetan army and lay medical and Tantric lineages, so that they would eventually apply their knowledge outside the Gelugpa monasteries and potentially in the service of the state and the wider society. The first director of the institute was Jampa Thubwang, who was at the time the senior personal physician to the Thirteenth Dalai Lama and the highest-ranking monk official (*Chigyab Khenpo*), in the Tibetan government. His brilliant student, a monk from humble origins named Khyenrab Norbu (Mkhyen rab nor bu, 1883–1962), soon became his successor and subsequently headed both the Mentsikhang and Chagpori and intermittently held the post of personal physician to the Dalai Lama. He appears at the bottom-right corner of a *thangka* depicting the Thirteenth Dalai Lama, which was added to the Lhasa set of seventy-nine medical paintings (FIG. V3.9).

Khyenrab Norbu played a leading role in the further development of Sowa Rigpa in Lhasa during the first half of the twentieth century and, among many other achievements, he built the foundation for the lasting legacy of the Mentsikhang. He reformed the medical curriculum by reducing the overall period for study, and he wrote and introduced his students to shorter medical treatises that offered concise summaries of many of the most important topics of medicine.[18] To this day, some of these texts are among the most widely used modern works on Tibetan medicine, such as his pharmacological books *Excellent Vase of Elixirs* and *Measurements of the Human Body*.[19]

Although the Mentsikhang was primarily intended as a medical college, its doctors and students were known to treat many patients. It even became the center for a campaign to support maternal and child health throughout the region, including the encouragement of parents to order astrologically calculated birth horoscopes, which were carried out at the institute. The Mentsikhang also arranged for the distribution of medical texts, such as Khyenrab Norbu's *Mirror of the Moon* and his teacher's *Jewel of the Heart*, to administrators



V3.10 Perspective Map of Lhasa from 1912 showing Tengyeling Monastery. After its partial destruction, the Mentsikhang was built to its south in 1916. Private Collection of Knud Larsen, Oslo

V3.11 Lhasa Map supposedly from 1936, but showing Tengyeling Monastery (destroyed 1912) intact (left, front). Private Collection, London. Photograph courtesy of Nikolas, John, and Dekyi Rhodes

of all ninety-six districts under the jurisdiction of the Lhasa government.[20] The historian Stacey van Vleet has rightly argued that the building of the Mentsikhang and this particular childcare campaign should be counted as important reforms instigated by and carried out under the rule of the Thirteenth Dalai Lama.[21] It is also worth noting that the Tibetan government chose to support the establishment of an indigenous Tibetan medical hospital, rather than of a biomedical hospital, an idea keenly supported by the British, who had gained a political foothold in central Tibet and who between 1904 and 1936 established three Western medical clinics in central Tibet (the one in Lhasa opening in 1936).

The partial destruction of the Tengyeling (Bstan rgyas gling) Monastery in central Lhasa by the Tibetan government in 1912 for political reasons and the monastery's subsequent loss of lands[22] meant that the property reverted to the government. After rejecting the establishment of a school using English as the language of instruction, the Dalai Lama approved the suggestion to build an Institute of Medicine and Astrology.[23] The Mentsikhang was built just south of a building that had once stood next to the Tengyeling Monastery and that can be seen on a perspective map from the east-west orientation (FIG. V3.10). Other early twentieth-century perspective drawings of Lhasa also show the intact Tengyeling Monastery next to its park-like grounds although one is dated to 1936, i.e., after the monastery's destruction (FIG. V3.11).[24] These drawings, when compared to other plans (FIG. V3.12) and an onsite survey

V3.12 Map of Lhasa, 1947–48. Drawing by Peter Aufschnaiter © Ethnographic Museum of the University of Zürich. Photograph courtesy of Knud Larsen. Peter Aufschnaiter's first ever made geographical map of Lhasa from the 1940s shows the Mentsikhang in the *kha* section of the plan. It is listed as item 76 in the Tibetan index, captioned with "Government Mentsikhang" (Gshung sman rtsis khang)

carried out in 2007 and 2012, help us to confirm the site for the Mentsikhang before it was built and its modern-day location in relation to the remains of Tengyeling (FIG. V3.13).

Architecture and Design

The original Mentsikhang building is a long, narrow, and symmetrical two-story building (FIG. V3.14), extending about 10 by 54 meters, with a long façade facing a courtyard on the south side. The building is divided into three parts, with the middle part protruding 5 meters into the courtyard. On either side of the middle section are two entrances giving access to the central spaces on the ground floor and to the entire first floor. The rooms on the ground-floor level and at both ends of the building are reached directly from the courtyard, which is flanked on all three sides by buildings used as residences, storage facilities, and, in the past, stables.

The walls of the building are constructed of granite, which is an indication of its importance, as more modest buildings in Lhasa have walls of clay bricks or ground-floor walls of stone with upper-floor walls made of clay. A reddish-brown frieze appears at the top of the Mentsikhang walls, as in all religious buildings to signify wealth and power (FIG. V3.15). Here the frieze is simply painted stone and not made up of small tamarisk branches painted on the outside as was the custom with friezes on religious buildings that were considered more important. The roof of the Mentsikhang is flat and features a small skylight at the center. The stairs also give access to the roof, which was probably used for drying herbs.

The main room on the ground floor is a twelve-pillar teaching and assembly hall, for which Khyenrab Norbu initially commissioned several medical tree murals.[25] These were later covered, and in 2006 they were painted over with garish colors.[26] In the past, the other central rooms on the ground floor were used for storing herbs and medical materials, as well as for production of medicines, and probably held a library. In line with most other traditional houses in Lhasa, the Mentsikhang has no basement.

On the first floor, directly above the narrow storeroom on the ground floor, a skylit corridor

gives access to another meeting hall above the main hall and to a chapel above the large storeroom. The chapel, which has only four pillars, features statues of many important Tibetan medical scholars and saints. Statues there today are recent replicas (FIG. V3.17); the location of the originals is unknown, as they were removed or destroyed during the Cultural Revolution.[27]

Twentieth-century Developments

In Tibetan history, Chagpori Medical College in Lhasa is the first documented example of a formalized monastic medical institute. It included within its facilities an important Buddhist temple, where religious practices were combined with medical studies and which also served as a place of worship and prayer for the general Lhasa population. It is to be hoped that the radio mast that has been standing on Chagpori Hill in the place of the destroyed medical college for several decades will soon be removed, along with the present television building. A reconstruction of the college on the site would be a natural step in restoring important architectural landmarks in Lhasa.

A new Chagpori Medical Institute was founded in November 1992 by Trogawa Rinpoche (1931–2005), in the northeast Indian town of Darjeeling,[28] which has long been a thoroughfare for Tibetan traders and attracted Tibetan exiles since 1959. Trogawa Rinpoche was a graduate of the Lhasa Chagpori Medical College, who taught widely in India and also internationally.

The construction of the Mentsikhang on the lands of a monastery that had been partially destroyed because of political conflict was perhaps meant "to heal local political divisions" as Stacey van Vleet has suggested.[29] This new college was a more secular medical institution, although Buddhist medical rituals initially played an important role and many of its students were still monks. Despite claims by some Communist Party journalists and later historians that the Mentsikhang admitted female students in 1963 for the first time in history, we know of at least one female student and doctor, Khandro Yangga, who was based at the Mentsikhang as Khyenrab Norbu's personal student and learned cataract surgery from him as early as the 1940s (see FIG. 4.24).[30]


Beijing Shar Lam
Dosenge Lam
Yuthok Lam
Jingdrol Sharlam
Mentsikhang
Jokhang Temple
Barkor
Changling
Chom Khang
Shamo Kago
Ngakthang
Tsongkhang
Tengyaling
Tsuglagkhang
Tsuklakhang
Tsomoling
Tsemonling
Potala Lam
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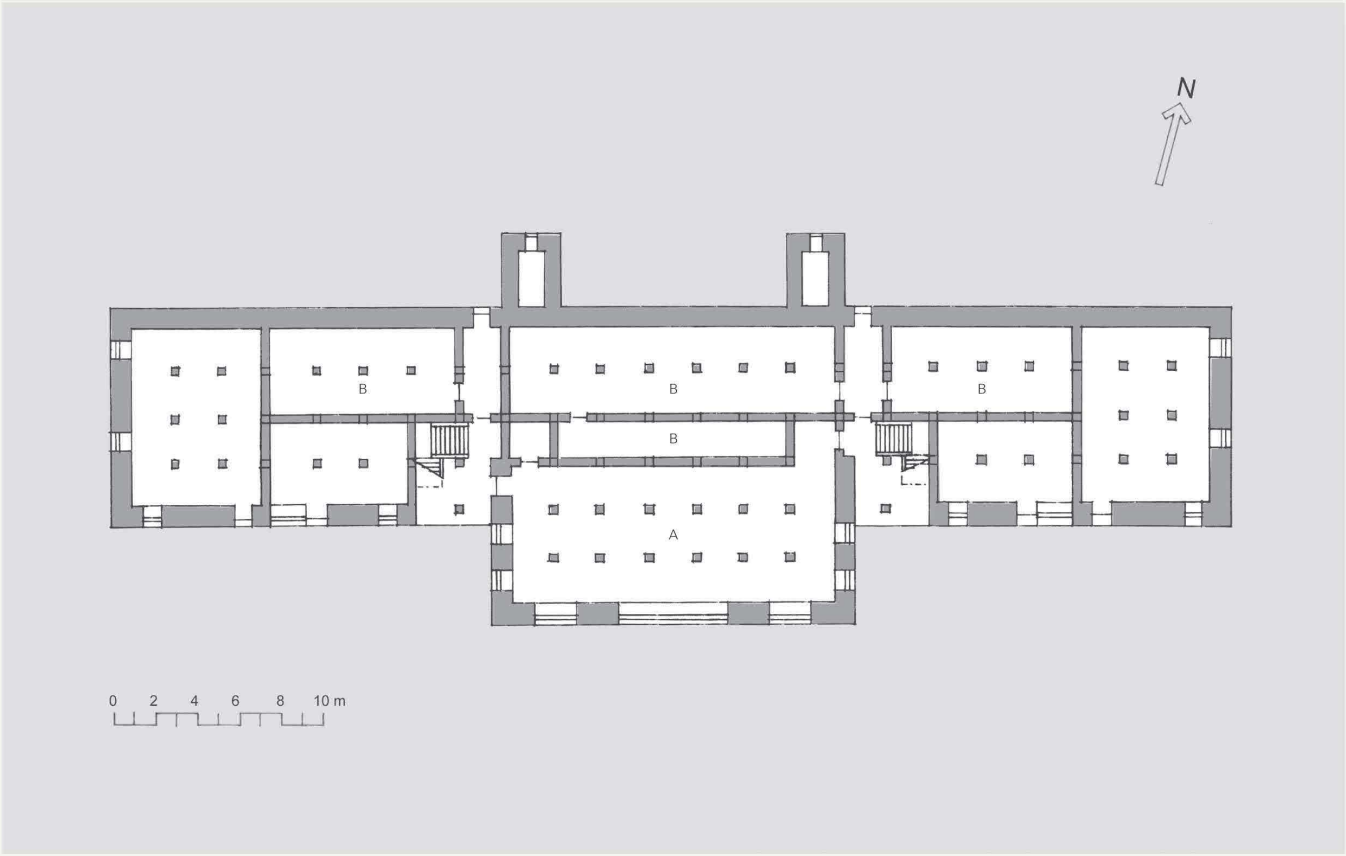
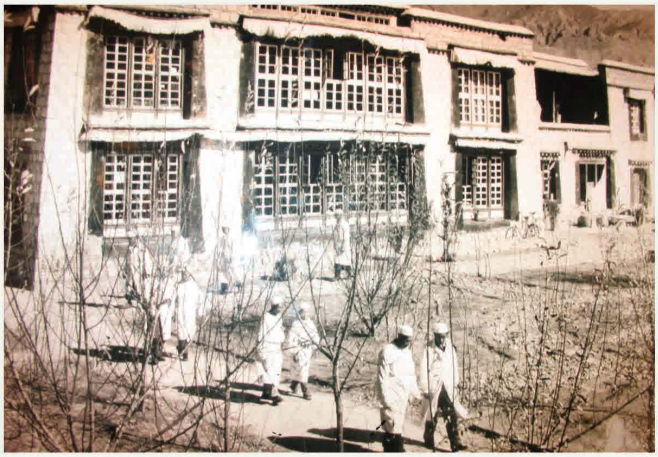
Tsepoi Lam
Tsepoi Shar Lam
Tsepoi Nub



V3.14 Ground Plan of Mentsikhang, Lhasa. Original state. ©Knud Larsen and Tsewang Tashi. A: Teaching Hall, B: Storage

V3.15 The old building of the Lhasa Mentsikhang today



V3.16 The Mentsikhang during the 1950s and 60s. Photograph shown in an exhibition at the Lhasa Mentsikhang, 2006

In 1961 the Mentsikhang was officially incorporated into the Communist health-care infrastructure of Lhasa City and various reforms were implemented in subsequent years, such as introducing new departments, adding a public clinic, donning white robes, and increasing medical production to meet the demand of a modern public outpatient clinic (FIG. V3.16). In part because the college had to adapt to the new circumstances by "bio-medicalizing" its appearance and demonstrating socialist potential, it stayed open even during the Cultural Revolution (1966–76), although it was largely defunct with much of its library destroyed; most of its staff absent and unable to work because of political turmoil. Such turmoil is vividly depicted in a recent publication of stirring black-and-white photographs of the Cultural Revolution in Tibet.[31]

The old building of the Mentsikhang is still considered an important building and is visited by Tibetan physicians from throughout Tibet and abroad. Until 2012 a small part of the building served as the residence of the late Jampa Trinle, the famous scholar-physician, long-term director of the institute, and one of the main students of Khyenrab Norbu. A two-story building added in about 2000 on the west side of the courtyard houses a small museum featuring the historical development of medicine in Tibet. The museum seems to attract few visitors from outside of Tibetan medical circles and is not normally open to the public.

The few items that have survived from the vast collections of the Chagpori and Mentsikhang are displayed in the shrine room *cum* library at the heart of the new outpatient department of the Mentsikhang. The notable exception are the surviving original seventeenth-century medical paintings, which are kept in storage. Only recent copies are on display along with new statues of revered luminaries of the Tibetan medical tradition. We also find an ornamental copy of the *Four Tantras*, written in golden ink on blue paper (see FIG. 1.2), which was rescued from Chagpori before it was destroyed. Important holdings in this display room are also the holdings of the Mentsikhang library, a medical collection

V3.17 Shrine Room inside the old building of the Mentsikhang

that to our knowledge is unparalleled in Tibet. Some texts were saved from the ravages of the Red Guards and later reinstalled here, but we also know that this collection is the result of active efforts of Mentsikhang staff members to acquire medical texts that have surfaced since the 1980s all over Tibet, having been hidden, often at great personal risk. Since the 1980s, these texts have been studied in an effort to "recover and research what has been lost during the Cultural Revolution,"[32] and in some cases they have also been republished. These works, along with several private collections, have been catalogued,[33] and some of these original texts have been consulted as part of this publication (see chapter 8). The Mentsikhang also stores surviving parts of woodblock prints of Tibetan medical works.

Since the 1980s, the Mentsikhang has been split into several new institutions. Only the inpatient and outpatient departments still remain under the name Mentsikhang. It is linked to several Tibetan medical branch clinics and hospitals in the capitals of the four prefectures of the Tibet Autonomous Region and in some select counties. Teaching has come almost entirely under the administration of the Tibetan Medical College located elsewhere in the city, where more than three hundred students study for BA, MA, and PhD degrees and graduate from within the Chinese university system. The most recent split from the institute is what is now called TAR Tibetan Medicine Pharmaceutical Factory, which occupies two production sites, one in Lhasa that produces medications for Mentsikhang patients and those of its branches and one outside Lhasa that operates under the stringent Good Manufacturing Practices (GMP) production rules discussed in chapter 3. All of these institutions operate almost entirely independently of each other, although Tibetan medical college students still pursue their clinical training at the Mentikhang's in- and outpatient departments, and many of the pharmacology graduates from the Tibetan Medical College are absorbed into the pharmaceutical factory. Under the most recent economic and health reforms, these institutions have been made to operate under a variety of partnerships between government and private business investors, which have in many ways challenged some important traditional ethical foundations for the teaching, practice, and production of Tibetan medicine.